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On All Makes of Cars
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Reasonable Rates
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Your Radio for Years
to come

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Gives Daily Service between HAMILTON, GRIMSBY and BEAMSVILLE
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With Guaranteed Tube Skates
Complete
Boys, up to size 5 \$2.95
Women's and Misses,
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IT WILL PAY YOU
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IT GETS RESULTS

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ROSE?
Only the sentiment that sends
them to your mother, wife or
sweetheart.
GRIMSBY ROSE CO.
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Manufactured by
Judson D. Russ Co.
Phone 58, Grimsby, Ont.

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We Specialize in "Repairs" of
all makes of radios and elec-
trical appliances.
EXPERT IGNITION SERVICE
Get Our Prices On Aerial
Installations
RADIOS RENTED
at reasonable rates for parties
and week-ends, etc.

Phone 215 for
QUALITY MEATS

THIS AD IS
VALUABLE
Bring it in to our store
and we will allow you
10c on a \$1.00 cash
purchase or over

DEDICATED TO BETTER
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VERNON TUCK
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To the public comes from ren-
dering a service of comfortable
vision to those who have never
before submitted to an examina-
tion of their eyes. Our talks
in this series will be directed ES-
PECIALLY to that class. We
suggest that you be a consistent
reader of them. Because if you
are in need of a service (which
you may be) the securing of it
will be of great value to you.
(Continued next week)

WINTER
is just another pleasant sea-
son in a Natural Gas Heated
Home.
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W. L. WOLFORD
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We have a Surprise For You
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HOT MEALS & SANDWICHES
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ASPHALT SHINGLES
CEDAR PORTS
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CEMENT, LIME, GYPROC
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The Home of the NEW
STEWART WARNER
and ROGERS RADIOS
Come In and Hear these new
Logan Models

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We Deliver

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Complete, Individual Sanitary
Service. Specializing in Scalp
Treatment.
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Quaker Tomatoes \$ for 25c
Goodness Raisins \$ for 25c
Currants lb. 15c
Candied Peel, Orange and
Lemon, lb. 15c
Citron lb. 25c
Choice Mixed Nuts 15c
H. P. Sauce 25c
Reeddale Toilet Soap, 3 cakes 10
(Cellophane wrapped) Good
assortment of Christmas
Candy at various prices.
34 Depot St. Phone 350

Skates Skates
January Clearing Sale

All Lines of Hockey Skates Reduced from
30 to 50 per cent.
Here is your chance boys to buy skates at less than
cost price.

HOCKEY STICKS
Extra good values from 15c to \$1.00

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C. P. BROWN Main Street
GRIMSBY HARDWARE West
GRIMSBY

ENJOY GOOD CANDY AT LOWER COST
Dymond's "Preferred" Candies
An excellent one pound Box of Assorted Chocolates, attractively
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42c LB.
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DYMOND'S DRUG STORE Grimsby
Next Bell Telephone Office, Grimsby

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Gives you Full Time Reliability
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Free Coupons !
at the
DURANT MOTOR SALES & SERVICE
The only Service Station in
Grimsby giving Coupons with ev-
ery Cash Sale.
A Rogers Tea Spoon given to
each of the first HUNDRED
Customers, spending a Dollar or
more.
See the Valuable Premiums now
on show at the Garage.
"MARATHON HI-TEST" and
"CYCLO" GASOLINE
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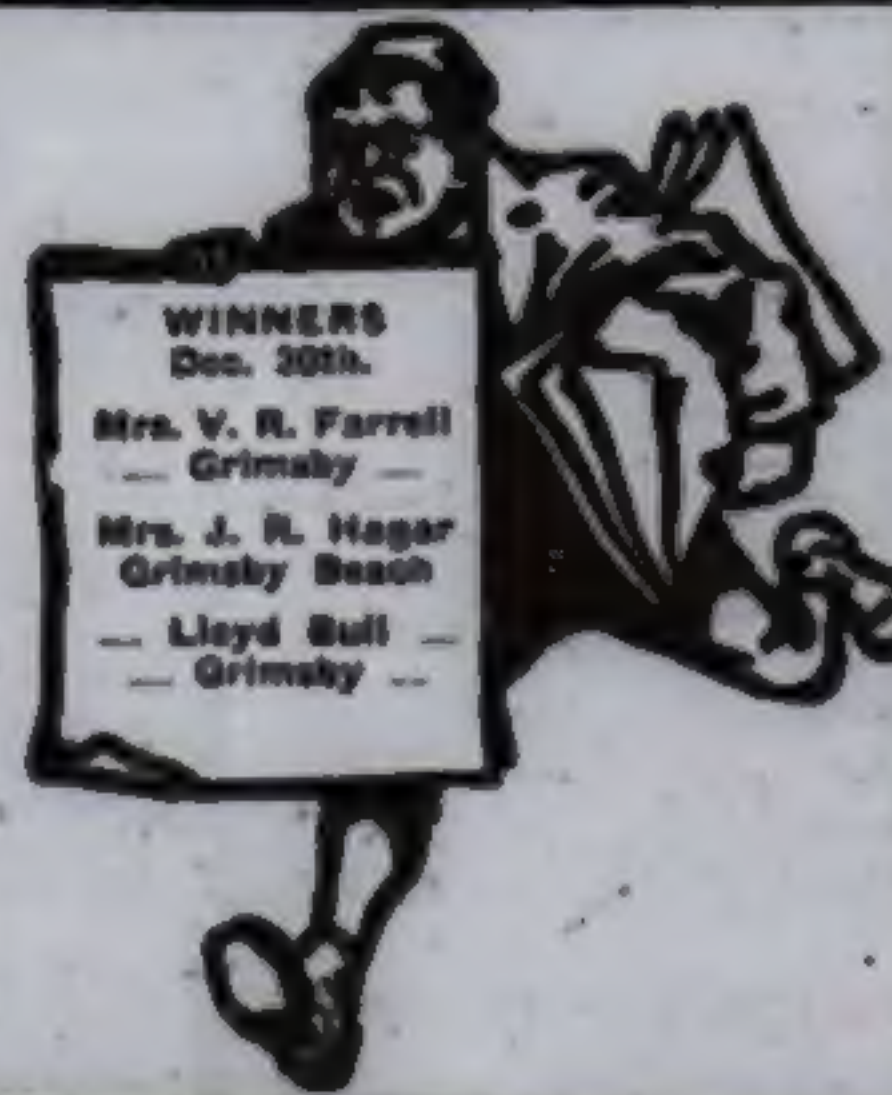
GRIMSBY MEAT
MARKET
C. R. BECKERSON, Prop.
Wishes His Patrons
and Friends
A HAPPY
NEW YEAR
FISH NOW ON HAND
All Orders Phoned in by
10 o'clock will be delivered
for dinner.
Phone 309
42 Main Street W.

Check Over The Advertisements on This Page
Find the Name of One of the Pictures playing at Moore's Theatre
HERE ARE THE PARTICULARS

3 Pairs of
Guest Tickets
Given To The
Lucky Winners
Each Week
BE A LUCKY
WINNER

In MOORE'S THEATRE advertisement which appears on
Page Four in this issue, the names of the pictures play-
ing at the Theatre this week are advertised. What you are
asked to do is to look up the names of the pictures and the
stars playing in them and see if you can locate in which
advertisements on this page are words which do not make
sense in the advertisement, and which when put together
make the name of one of the pictures playing this week.
Some weeks the name of one of the stars will be included
in the advertisements, but not necessarily every week. At
no time will any stars name be used, when no mention of
the star is made in the Theatre advertisement.
Read the advertisements over carefully. See if you can

find the attraction when it is inserted. Then cut out and
mail to the Contest Editor, Independent, the coupon at the
bottom of this page, properly filled in. Those who compete
must give their names and addresses in their replies and
write plainly as business will be considered in awarding
prizes.
All replies must be in by Monday following publication. All
replies received up to that time will be put in a sealed box
and opened Monday.
The winners will be announced on this page each week,
and lucky contestants are asked to call at the Independent
to receive their tickets. Two tickets are given to each
winner and they are good for any regular show at Moore's
Theatre.



Let Us
Fit Out Your Home
Large Stock of
CHESTERFIELD SUITES
DINING ROOM SUITES
BEDROOM SUITES
SPRINGS and MATTRESSES
PARLOR LAMPS
TABLE LAMPS
BRIDGE LAMPS
MANTEL LAMPS
JACQUELINE
We meet all Catalogue Prices
and deliver FREE
J. W. Buck & Son
Phone 2-w or 76-w
BEAMSVILLE, ONT.

MILLYARD'S
DRUG STORE GRIMSBY
Phone 1
MALT & COD LIVER OIL
A GREAT TONIC BUILDER FOR CHILDREN
1 lb. jar 75c | 2 lb. jar \$1.25
MUS - KEE - KEE TONIC - - \$1.25

COME ON IN
BATTERY
REPAIRS
GENERAL REPAIRS
To Any Make of Car
Phone 193
Night Phone 385
LE PAGES
GARAGE
28 Main St. East Grimsby

READ THE
ADVERTISEMENTS
ON THIS PAGE
THEN PA*RONIZE
THESE MERCHANTS
—
YOU WILL FIND
EXCELLENT VALUES
AT THEIR STORES

Subscribe for The
INDEPENDENT
Your Home
Town
Newspaper
Subscription
Price
2.00 Per Year

The Very Best
In Fuel
The famous **'blue coal'**
Trade Marked **SCRANTON Anthracite**
DUSTLESS BY-PRODUCT COKE
Also the Wood, Cannel and Soft Coal
EATON COAL CO
2 Depot Street
Phone 155

McPHERSON BROS.
Phone 157
OLD COMPANY LEHIGH COAL
STELCO COKE and DRY HARDWOOD
Would you be interested in a machine that, for a small
investment, would cut your fuel costs 30 per cent. to
50 per cent. and give you steadier heat with Automatic
Middle Control?
IF SO COME IN AND SEE US

WINTER
Will not make you blue,
If your Plumbing work
is done.
LES LARSEN
Plumbing and Heating
68 Livingston Ave. Phone 427J
GRIMSBY

If you have
something to
holler about—
Phone 166-r-3
Beamsville
or 26
Grimsby
William Tufford
LICENSED AUCTIONEER

NOTICE !
Try to help your dairy out
down expenses by returning
bottles daily. For those who
get milk from the store, kindly
take the empty back the
next day as we need them in
our business.
MODEL DAIRY
PHONE 419

COUPON Fill in this Coupon and bring in or mail to the
Independent before 12 Noon Monday

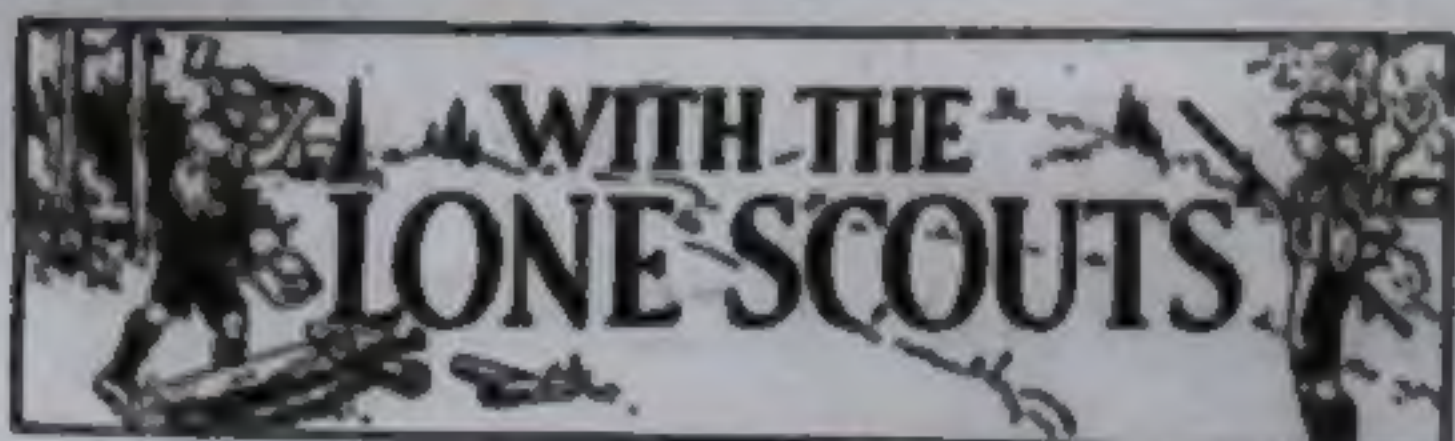
Name of Show

Name of Star

Advertisements in which words appeared

Name and Address

Phone 174



WITH THE LONE SCOUTS

Graduation

This week we have to record the formation of two more new regular Troops, one at Fenelon Falls and one at Portmouth, which have been formed as the direct result of Lone Scout activity.

These two now bring the total number of Troops founded by Louies up to twelve, which is a splendid record for the two and a half years that Lone Scouting has been organized in Ontario.

At Fenelon Falls Patrol Leader Douglas Warren, by his enthusiasm and tenacity has been responsible for the formation of the first Fenelon Falls Troop, and he has brought his father into the movement as the new Scoutmaster.

We are sorry to lose the Portmouth "Bulldogs" from the Lone Scouts, as they are members of the original group who formed the first Lone Scout Troop in this province, and they have hung together through "Thick and Thin" for three years and have done most excellent work. In this centre the leader was Patrol Leader John Meers, who has now brought his brother in to be Scoutmaster of the 1st Portmouth Troop, whilst John takes the position of Assistant Scoutmaster.

We congratulate these Louies on their "graduation," and whilst we are sorry to see them leave the ranks of the Lone Scouts, we know that they will and larger scope and new fields of activity in the troops which they have organized.

Canada on the "Toy Standard"—Canadian movie theatres in numerous cities and towns went on the "Toy Standard" in December. For special matinees, that is. The admittance charge was made one toy, new or repairable, and the receipts were turned over to the local Boy Scout Christmas Toy Repair Shop.

We have not yet heard the official returns of the Scout Toy Shop scheme, but we know that there were a lot of happy kiddies on Christmas morning, who, if it had not been for this Scout Good Turn would have experienced a sad and disappointing Xmas.

We are glad that the Louies had a share in this work. Some of them sent out parcels from their own homes, others sent their toys to Lone Scout Headquarters.

1931 Goes Down As Record Heat Year

Washington.—The fellow who kept repeating through most of 1931, "gosh, it's hot," really had something to talk about.

Official records of the United States Weather Bureau show the year now closed as the warmest on record for nearly every state.

While generally there was an excess of high temperatures, there also was a noticeable lack of disturbing and costly weather phenomena, such as the widespread droughts of 1930, severe tropical storms and tornadoes and devastating floods.

Surrounded by his charts and figures, J. B. Kinner, meteorologist, termed the excessive warmth the outstanding feature of 1931.

Training of Youth

Washington.—Development of informed national leaders from the country's youth was announced recently as the purpose of the formation of "The United States Society."

Mr. Calvin Coolidge, Mr. Elihu Root, Mr. Newton D. Baker, Mr. Owen D. Young and Dr. John Grier Hibben, president of Princeton University, make up the board of advisors.

Mr. David Lawrence, newspaper editor and writer, is chairman; Mrs. Mary Roberts Rinehart, vice-chairman; and Mr. Brewster Love, international lawyer, secretary-treasurer.

U.S. Farmers Pay Back \$6,338,806 For Seed

Memphis, Tenn.—A recent announcement by Mr. J. M. Lynch, administrative official in charge of the Federal Farm Seed Loan Office here, reveals the fact that to date \$6,338,806 has been paid back to the United States by farmers in this territory for farm seed loans made during 1931.

"We feel very much encouraged by the payment," Mr. Lynch said. "The promptness with which farmers have repaid and the fact that we now have warehouse receipts for \$6,338,806 in cotton, prove the success of the plan."

Approximately \$22,000,000 was loaned by the Memphis office to farmers in the drought areas of Tennessee, Arkansas, Mississippi, Louisiana and Alabama.

Farm Machine Exports of Canada Increase

Ottawa.—Exports of Canadian farm implements and machinery during November jumped to \$104,479 in November last as compared with \$114,429 the previous month. Figures for November, 1930, were \$235,516.

Scout Headquarters, from where they were forwarded to their new owners, and several who had neither toys or time sent contributions of money.

"When all round it was a splendid 'Good Turn' and quite up to Lone Scout Standard."

Santa Claus and Fairies

Although it is a well recognized fact that all Canadian Scouts believe in Santa Claus, we are not quite sure what their attitude is on the question of Fairies.

However, we have some interesting information on this subject from Australia, as the following will show: Lord Somers, retiring Governor of Victoria, told Australian Scouts that he thought he still believed in fairies when alone in the bush. "I could see a queer hole in a tree where some old robin might live; and at night I used to wonder whether the fairies came out to play." Lord Somers frequently led parties of Victorian Boy Scouts on hikes of several days in the bush.

A "Good Turn" and Its Rewards

All Scouts are expected to perform at least one "Good Turn" every day all the year around, and at any time that they can do an extra "special" one they should do so, but these good turns are done, not for reward, but in order that the Scout may be of service and helpful to others, thus living up to the obligations of his Scout Promise.

However, occasionally reward comes along when it is least expected, and in novel form, as happened to a 1st Moose Jaw (Sask.) Troop upon a Scout members the Moose Jaw Wild Animal Park Society conferred its Life Membership in recognition of the good work done by the Troop in improving the Park.

The World Scout Jamboree, 1933

Those Lone Scouts who are interested in the 1933 World Scout Jamboree will be interested to know that Count Paul Teleki, former Prime Minister of Hungary, and Hungarian Honorary Chief Scout, has been appointed Camp Chief of the Jamboree Camp.

Are you interested in being a Lone Scout?

If you are between 15 and 18 years of age and unable to join a regular Troop write for particulars to the Lone Scout Department, 250 Bay Street, Toronto 2.

Britain Extends Air Service To Tiberias Sea of Galilee

London.—The little town and harbor of Tiberias, on the Sea of Galilee, 700 feet below sea level, is now for the first time brought into regular high-speed communication with the outside world by the regular visits of big British flying boats on the Imperial Airways England-India service.

This is said to be the lowest level at which aircraft are regularly operated anywhere in the world. Below sea level the atmosphere gets denser. Theoretically, experts say a flying machine should take off a little more quickly with a large load and given a suitable engine, slightly higher speeds should be possible several hundred feet below sea-level than at normal height.

Czech Shoe King Uses Plane on Sales Trip

Prague.—What is described as the most lengthy and ambitious sales trip yet made by airplane began recently when a three-motored plane left the Zlin flying field for a 20,000-mile flight. The property of Thomas Bata, the Czechoslovak shoe king, it carried Bata himself, three heads of the export business of his firm, a quantity of samples, a British pilot, a Czech pilot and a wireless operator. The plane will visit all the larger cities in North and South Africa, Iran, Mesopotamia and Persia, fly along the coast of the Red Sea and the Arabian Sea to British India and Dutch India.

Japan's Mushrooms Popular in America

Tokyo.—Japanese mushrooms are being exported in increasing quantities to the American market and are yielding good profits to growers in Gifu Prefecture.

The Gifu Agricultural Society started experimental shipments with 1,500 pounds of fresh mushrooms to San Francisco, packing them in four-pound baskets which were cooled and shipped in cold storage. First shipments met with much favor.

Flying Inns Popular

London.—Flying inns are the latest attraction for air tourists in England. They are inns which have landing fields for private airplane owners and club pilots. Among them is the Fountain Inn, half way between Stony Stratford and Fenny Stratford on the London-Corwen Road, kept by Lieutenant Harrison, late of the British Navy. The landing field is near the house and pilots wishing to land are asked to circle three times, this aircraft bringing an automobile to take them from the landing ground to the inn.

On His Way to Health



How 13-year-old Clarence Hastings of Syracuse, N.Y., spent his Christmas. He has been in a respirator for more than a year and there is every chance of his recovery.

Old Statue Ordains

Long Holiday In France

Paris.—The recent Christmas holiday afforded the French a long weekend. From December 21 until the following Monday they were free to make merry. Only a few civil service employees, such as the telegraph and telephone departments, were on duty. They also enjoyed another long weekend over New Year's. A law passed almost a quarter of a century ago stipulates that when a civil holiday falls on a Friday or a Tuesday, the Saturday or the Monday intervening shall be considered a "feast-day" as well.

Valuable Paintings

Donated to Canada

Ottawa.—Through the generosity of some public-spirited Canadians, the National Art Gallery of Canada has now come into possession of Van Dyck's masterpieces, "The Repentant Magdalene," and Jan Vermeer's "Portrait of an Ecclesiastic." These paintings were on exhibit at the gallery here for many months, but were lost the property of the institution until a number of benefactors, who anxiously to be preserved, made it possible for the gallery to secure them.

Chemical Research

May Improve Plants

Winnipeg.—Prof. H. P. Roberts, of the botany department of the University of Manitoba, is attempting to obtain a chemical which will stimulate growth in plants, and is investigating the effects of certain nutrient salts on plant growth. Prof. Roberts will be experimenting for two or three years before he can be certain of results.

West Produces Glass

Until three years ago glass had never been manufactured in Manitoba. Now the Mid-West Glass Company of Winnipeg turns out more than 500 tons of finished glass every month and employs over 100 people with a monthly payroll of \$10,000.

Shorter Skirts Predicted

By Dictators of Fashion

Paris.—The dictators of fashion in Paris have decreed shorter skirts for the spring.

Afternoon gowns will reveal as much of the ankle as the winter ones to show, while outdoor suits will come no further than half way down the calf.

Spain's New President



Don Nicolo Alcala Zamora, new Spanish President, is installed with pomp and ceremony in Madrid. He is shown in his carriage acknowledging cheers of the crowd.

His Majesty's New Year Message

Prays for Return of Prosperity in London Message

London.—A prayer for the return of prosperity together with "the light of hope and strength of united purpose" was contained in a New Year message of the King, in reply to the greetings of the citizens of London, presented by the lord mayor.

"We live in times fraught with difficulties," the King said in his message of thanks, "but during the early days through which we have been passing the courage, determination and sacrifice of all classes to restore the fortunes of our beloved country filled me with admiration."

"It is in a spirit of confidence that I send my greetings to the citizens of London, praying that under Divine guidance the coming year may bring the light of hope and the strength of united purpose to our lives, and renewed prosperity to our land."

Measles More Deadly Than Scarlet Fever

London.—A remarkable theory of the evolution of measles, once one of the little regarded disease of childhood, into one of the really dangerous ailments was advanced here recently by Dr. J. C. Ashton, well-known health expert. Measles ranks highest as a cause of death in childhood, he said, and leaves many victims with heart or respiratory weaknesses that become apparent later in life. British health authorities are warning the public to be on the watch for a serious epidemic of measles this winter, their prediction being based on the periodicity curve in public health figures.

"Measles seems to be increasing in virulence and to be gradually taking the place of scarlet fever from the point of view of its effect on the human being," he said.

"The popular view of measles ranks it as a mild and harmless disease. In general terms this is correct, but we must not let that fact hide two other facts of tremendous import: first, that more children die of measles than from any other infectious disease, and, secondly, that a child may recover from measles, but there may be something left behind."

"The aftermath in later life is the form of heart disease, kidney trouble, bronchitis, tuberculosis, and middle ear disease with deafness is a very heavy cost."

Measles begins with sneezing, running of the nose and a harsh cough. The difficulty of diagnosing it in the early stages is due to the fact that there is nothing externally to distinguish it from a common cold.

"There is one sure way of telling measles in its early stage," says Dr. Ashton. "Look inside the lower lip and check for bluish white spots. If these are present, then it is measles without a doubt."

Canada's Minerals Meet Varied Needs

Toronto.—It is claimed that nowhere in Canada there is to be found every kind of mineral required in the world today. Canada possesses mineral resources of great wealth. During the past few years mining areas have been opened in Northwestern Quebec, Northern Ontario, Northern Manitoba and British Columbia.

The growth of this industry is reflected in Government statistics, which show that \$2,319 employees were engaged in it during the year 1931 and \$4,102 in 1930; salaries and wages paid during the same years rising from \$78,000,000 in 1931 to \$124,000,000 in 1930, and capital invested from \$100,000,000 to \$107,000,000.

Clover Varieties Speed Up Output

Ottawa.—Clover and grass sections throughout Canada increased substantially in most varieties last year, according to the market service of the Dominion seed branch. The yield of red clover seed is expected to exceed 4,000,000 pounds with water increases in production reported in Eastern Ontario and Quebec. The production of alfalfa seed, which comes largely from Ontario is estimated at 2,400,000 pounds, while a total yield of approximately 4,000,000 pounds of alfalfa seed is in sight, a much larger crop than usual.

Canada's Grass Seed To Beautify N.Z. Lawns

Toronto.—In recent years New Zealand's trade with the Dominion in seeds has not been all that could have been desired, but this trade is now showing improvement, and it has been found possible to create renewed interest in New Zealand grass seed. Exports are being made to encourage sales, particularly in grass suitable for pastures, lawns, and golf links, and it is hoped that business in seeds will show a credits improvement.

Vegetables to be Certificated

Brussels.—All fresh vegetables sent from Belgium to England after March 15 must be accompanied by a certificate of origin, granted by the commune in which they are grown. The exportation of vegetables from France, via Belgium, is strictly prohibited.

Record Output Of Gold Deposits

Over 14 Per Cent. World's Low Grade Deposits Produced in Canada

Timmins.—A survey of general information from the gold producing mines of Canada toward the close of 1931 shows very reasonable assurance of an output averaging substantially over 240,000 ounces of the metal monthly—or an aggregate of possibly 2,880,000 ounces in 1932.

The increase in gold production during 1931 has been the most remarkable in the history of the industry. Government records already on hand provide assurance of the total for 1931, exceeding \$55,000,000 and possibly closely approaching \$56,000,000. This compares with \$39,000,000 in 1930 and \$42,000,000 in 1929—the former highest records ever attained in Canada. Moreover, the end of the year finds production at a rate of close to \$5,000,000—thereby indicating that for 1932 the output of gold in Canada will probably exceed \$60,000,000.

Canada is at present producing between 14 and 15 per cent. of the total current gold output of the world. The newness of the country and the vast extent of the favorable rock formations are factors which encourage a belief that growth of this industry will continue for some years to come.

A factor which promises to add in an important way to the gold resources of Canada is the attention now being given to low-grade deposits heretofore considered uneconomical. These deposits necessarily are exceedingly large tonnage, as they promise to establish another important backlog in the industry. A point of particular interest is in the township of Duparquet, where Nipissing Mining Company and Ventures, Limited, are bending their joint efforts to establish a large tonnage low-grade mine on the Battle property. There are believed to be ten of millions of tons on the property.

Trade Improvement Predicted for 1932

Chicago.—Better business in general for 1932 was predicted today by 11 leaders in various lines.

Their views, published today in the January issue of Commerce, official publication of the Chicago Association of Commerce, were based on the belief that better management will result from the experience of the past.

"Organizations and individuals who have grown soft during the easy years are now trained down to lean, hard business fighting trim," said C. W. Nash, president of the Nash Motor Company. "Mistakes that were made are providing them valuable lessons for the future."

"Experience has decidedly proved that we cannot shape or mold or change the natural economic forces of supply and demand with artificial expedients."

"Like medicine, these things are sometimes hard to take, but the sooner the dose is swallowed the sooner the recovery begins. That last two years should put our future in a healthier basis for resuming the forward and upward progress of the country's agricultural, industrial and financial condition."

Shallow Wells Used To Fight Fire Menace

Michigan forest fire-fighters last season developed a system of obtaining water for fighting ground fires by drilling shallow wells when no other nearby source was available, says the American Association for the Advancement of Science. On many occasions it was found possible to sink a well from three to eight feet into the ground in a short time and thus obtain sufficient water to keep a ground fire or a much fire under control. The use of this system depends upon the height of the water table. When it is low the pump system cannot be used, but in ordinary seasons it has been found that a well point sunk a few feet into the ground will furnish enough water to extinguish tanks and pumps.

Former Governor-General To Revisit Dominion

Ottawa.—Canada will be honored with a visit next spring from Lord Byng, former Governor-General, who debt settlements with other war debt Chief Commissioner of the Metropolitan Police in London.

Lord and Lady Byng will spend the winter in Jamaica and other islands of the West Indies. On the way home they plan to proceed to Vancouver via the Panama Canal. From Vancouver they will cross Canada to Halifax, making a few stops in the principal cities, especially at Ottawa. It is planned that Lord Byng will be here for the Viceroy's 80th anniversary dinner on April 9.

While there have been no changes in former Governor-General's returning to Canada, these have been rather rare. Friends of Lord and Lady Byng throughout the country are looking forward with much pleasure to their coming.

Ever Faster

By J. L. Maylor, M.A., in Discovery (November, 1931.)

Man is becoming quite accustomed to the idea of travelling at great speeds on land, and sea, and in the air. Some of the probable limitations to the speed which the human body can stand are interesting.

A few men have run 100 yards in 9.5 seconds and so have attained a speed a little greater than 21 miles per hour over this distance. At first sight it might appear that the human body as a whole has some limitation which would prevent its reaching a greater speed than this. But man began to ride a horse, and doubled his speed on foot without undue discomfort, though his risk of fatal injury was greatly increased.

The same fact in general is true today and man feels no discomfort, apart from the noise of the engine, when travelling steadily at 400 miles per hour, a speed exceeded during the recent speed trials on the Solent in England. There is this difference to be noted however. The man on the horse has the full force of the wind when the animal gallops, whereas in the racing airplanes he must not get out into the full air stream any hand or he will have it so violently blown backwards as probably to break his wrist. The pressure on his hand would amount to 70 lbs. at 400 m.p.h. Seated in his cockpit he will, however, experience a pressure either greater or less than that of the atmosphere, according to the arrangements of the design to let in or exclude air. This can be varied from the head-on pressure of three pounds to the square inch to a negative pressure exceeding that figure. Incidentally, apart from any heat given out by the engine, he will experience a temperature rise due to his speedy passage through the air of about 15 deg. F.

Looking ahead to still greater speeds there does not appear to be any factor among those already mentioned which is likely to have an adverse effect on the human frame until some where near the speed of sound is reached at 760 m.p.h. Then, owing to the formation of pressure waves and the rapidly increasing resistance it is difficult to predict what will happen. It is unlikely that a maintained speed of as high as 760 m.p.h. will be reached by the present generation for a number of reasons.

The question might be asked whether the speed of sound might be reached for a short time, say one minute. The human frame is always subject to rest to gravity forces, or in aeronautical terminology to an "acceleration of g." From experience in aeroplanes it seems that for about two seconds g can be experienced without injury, but that 10g or 11g will result in permanent injury at least. To attain or to exceed the speed of sound by any known method except the rocket will need a high acceleration for many seconds, so that experiments in this direction are not likely to produce good results. In fact similar difficulties may be experienced with rockets, too.

High accelerations are going to create another difficulty. Very high speed aircraft are going to need large manoeuvring fields, large spaces for turning, landing and taking off.

Consideration has been given to the strain limits of aircraft. With rapidly increasing speed similar care must be taken with regard to the human body. This is a difficulty belonging to aircraft, for the motor car has the natural resistance of its wheels to curtail excessive speed. The proper streamlining of aircraft becomes a very important factor to the pilot if he is not to suffer injury from the tremendous air pressure exerted by a machine flying at very high speed.

Then, the high power developed by the engine means a great expenditure of heat, and this has to be dissipated rapidly or else the engine would over-heat and fail to function. A rough idea of the rate of fuel consumed by a fast Schneider Trophy race engine can be gauged when it is realized that the petrol is burned faster than it can be poured from a two-gallon can. Cooling apparatus tends greatly to curtail the racing speed of aircraft, and measures must be perfected to overcome this difficulty before any very great advances in speed can be obtained.

However, such difficulties will likely be overcome. When they do, there seems to be no limit in sight to the maximum speed until it approaches the velocity of sound. Then, owing to the rapid increase of resistance of all objects near this speed, it is impossible to predict the precise behavior. Great Britain has taken a particular interest in speed records, largely as an item of sport, and holds the world's record for aeroplanes, motor cars, cycles and boats.

Oil-Electric Cars Tested in London

London.—The London and North-eastern Railway conducted trials recently with one of their new oil-electric cars, built to carry 50 passengers and luggage at 55 m.p.h. The trial was run under normal conditions, the outward run having some 1000 yards of the homebound run a through trip. A gain of 6 1/2 minutes was made over normal runs of 45 minutes and on the homebound journey a speed of 61 miles per hour on the level was attained.

